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A case of Encapsulated Papillary Carcinoma of the Breast in an Elderly Male with Unusual Presentation

Ishaku Agahu Othman

othmanmimie@gmail.com

Federal University Teaching Hospital Lafia

Mudashiru Biodun Lawal

Federal University Teaching Hospital Lafia

Oseyimawa Mosugu

Federal University Teaching Hospital Lafia

Horace Ojobo Agada

Federal University Teaching Hospital

Barka Vandi Kwaghe

Jos University Teaching Hospital

Andrea Oludolapo Akinjo

Lagos University Teaching Hospital

Case Report

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Abstract

Background

Encapsulated Papillary Carcinoma (EPC) is a rare tumour of the breast.

Case Presentation

An 80-year-old male of African descent presented with a two (2) year history of left breast lump and nipple areolar ulcer. He had no significant peripheral lymphadenopathy. Chest X-ray showed no evidence of metastasis to the lungs. A Simple left mastectomy on suspicion of a locally advanced breast cancer was done. Tissue histology demonstrated an encapsulated papillary carcinoma. The resection margins were negative. Encapsulated papillary carcinoma was further confirmed by P63 immunohistochemical stain.

Conclusion

Encapsulated papillary carcinoma is an indolent breast cancer, typically presenting as a local or loco-regional disease. A high index of suspicion is key in making diagnosis.

Introduction

Encapsulated Papillary Carcinoma (EPC) is a rare tumour of the breast.[1]It accounts for about 1–2% of malignant breast lesions in women.[1]Male patients account for about 2–7% of the cases of EPC globally.[1,2] The average age at diagnosis is 67 years.[3,4]The commonest presentations are nipple discharge and painless retroareolar mass.[1]EPC is usually a large tumour, with a mean size of 2cm within a cystic duct.[1,5]

Histologic examination typically reveals a papillary neoplasm, characterized by fibrovascular cores lined by cuboidal to columnar epithelial cells exhibiting low to intermediate-grade atypia. These are usually within a cystic duct surrounded by a thick fibrous capsule.[6]

Treatment is still controversial.[1] However, in the absence of invasion and lymph node metastasis, it is considered a form of ductal carcinoma in situ (DCIS) and managed as such.[6] The treatment is complete surgical resection.[1,7]Chemotherapy and radiotherapy may be considered in the presence of invasion or lymph node involvement.[7]

The prognosis for EPC is excellent in the absence of invasion and nodal metastasis, with a 10-year survival rate reaching 100%.[7] Disease-free survival rate may be as high as 90%.

Case presentation

An 80-year-old Nigerian male with controlled hypertension presented to the emergency department with an ulcerated left breast lump of 2-years duration. It was initially painless, but became painful with nipple

ulceration.

On examination, the left breast was asymmetrical with loss of the nipple-areolar complex (Fig. 1).There was a huge retroareolar firm mass that measured 14 x 10 x 5cm. It was not attached to the underlying pectoralis muscle. There was no axillary lymphadenopathy. The contralateral breast was normal. Chest X-ray showed no evidence of metastasis.

His haematocrit level was 7g/dl, and he subsequently had multiple blood transfusions. Liver function test, serum urea/creatinine, and electrolytes were within normal limits. Wound microscopy and culture yielded no growth.

He consented to a simple left mastectomy. Intra-operative findings revealed a huge ulcerated left breast mass with a necrotic surface and a well-delineated encapsulated base. The pectoralis major was spared. The sample was sent for histology. Patient was discharged three (3) days post-op on antibiotics and analgesics. He has had two (2) uneventful visits with physical examinations checking for possible reoccurrence.

Histopathological examination

A mastectomy specimen with surface skin ulceration was received. The nipple areolar complex was distorted by an exophytic mass. The sample measured 16cm in its widest diameter. Serial cut sections showed a haemorrhagic greyish-white mass (Fig. 2).

Histology revealed an intra-cystic papillary neoplasm (Fig. 3,4) comprising columnar and cuboidal epithelial cells surrounding delicate fibrovascular cores (Fig. 5)The cells show mild nuclear atypia, with mitotic figures less than 3 per 10 high-power field (HPF). Myoepithelial cells were absent confirmed by P63 immunostaining (Fig. 6) Resection margins were negative for tumour involvement. These findings are consistent with a diagnosis of non-invasive encapsulated papillary carcinoma.

Follow up and outcome

Patient has had two (2) uneventful follow up visits at the surgical outpatient department.

Discussion

Encapsulated papillary carcinoma is an indolent and localized carcinoma with prominent intracystic papillary growth and a fibrous capsule.[6] Common presentations include nipple discharge and a palpable areolar mass. It may however, be asymptomatic.[1]EPC has been documented in male patients.[1] The average age at presentation is 67 years.[3,4]while presentations are usually early,[5] our patient presented with an ulcerated mass. In the absence of invasion and lymph node metastasis, surgical resection with negative margins is the choice of treatment.

Challenges however abound in the diagnosis of EPC.[8] These stems from its rarity, and similarity to benign papillary lesions of the breast in both clinical and histologic behaviour.[9] Myoepithelial cells may be challenging to identify without immunohistochemistry.[8,10]This is because some tumours may show focal positivity of myoepithelial cells.[11,12]

Conclusion

EPC is an extremely rare tumour. **Indolent breast neoplasms in elderly males should be investigated using ultrasonography and mammography. Histologic diagnosis and sometimes immunostaining for myoepithelial cells are essential.**

Abbreviations

EPC
Encapsulated papillary carcinoma
DCIS
Ductal carcinoma in-situ
HPF
High power field

Declarations

a. Ethics and consent to participate

Not applicable

b. Consent to publish

Informed written consent was obtained from the individual for the publication. This will include any possible identifiable image(s) or data used in this report. Copy is available at request for review.

c. Availability of data and materials

Not applicable

d. Competing interest

The authors declare no conflict of interest in the decision, data collection, and execution of this report

e. Funding

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f. Authors contributions

All authors listed in this study contributed significantly in intellect and directly to this work.

g. Acknowledgements

Not applicable

References

1. Steponaviciene L, Gudaviciene D, Briediene R, Petroska D, Garnelyte A. Diagnosis, treatment, and outcomes of encapsulated papillary carcinoma: a single institution experience. *ActaMedicaLituanica*. 2018; 25:66-75.
2. George K, Anna Z, Evanthia K, Vassilos K. Encapsulated papillary carcinoma of the breast: an overview. *J Cancer Res Ther.* 2013; 9:564-570.
3. Mogal H, Brown DR, Isom S, Griffith K, Howard-McNatt M. Intracystic papillary carcinoma of the breast: a SEER database analysis of implications for therapy. *Breast*. 2016; 27:87-92.
4. Grabowski J, Salzstein SL, Sadler GR, Blair S. Intracystic papillary carcinoma: a review of 917 cases. *Cancer.* 2008; 113:916-20.
5. Athanasiou A, Khomsi F, de Joliniere B, Feki A. Encapsulated papillary carcinoma: a Case report and Review of the Literature. *Front. Surg*. 2022; 8:743881.
6. Goyette ERJ, Muller KE. Encapsulated papillary carcinoma. PathologyOutlines.com website.https://www.pathologyoutlines.com/topic/breastmalignantencapsulatedpapillary.htmlAccessed March 14th, 2026.
7. Tariq M, Idress R, Qureshi M, Kayani N. Encapsulated papillary carcinoma of breast; a clinicopathologic study of 25 cases and literature review with emphasis on high-grade variant. *Ann Dian Pathol*. 2020; 49:151613.
8. Rakha EA, Quinn C. Controversies regarding encapsulated papillary carcinoma of the breast: an approach to evaluation and categorisation. *Histopathol*. 2025; 86(4):497-513.
9. Rakha EA, Ahmed MA, Ellis IO. Papillary carcinoma of the breast: diagnostic agreement and management implications. *Histopathol.* 2016; 69:862-70.
10. Morgan S, Dodington D, Wu JM, Turashvili G. Solid papillary carcinoma and encapsulated papillary carcinoma of the breast: clinical-pathologic features and basement membrane studies of 50 cases. *Pathobiology*. 2021; 88:359-73.
11. Liu X, Wu H, Teng L, Zhang H, Lu J, Liang Z. High grade encapsulated carcinoma of the breast is clinicopathologically distinct from low/intermediate-grade neoplasms in Chinese patients. *Histo. Histopathol*. 2019; 34: 137-147.
12. Li X, Xu Y, Ye H, Qin S, Hou F, Liu W. Encapsulated papillary carcinoma of the breast: a clinicopathologic study of 49 cases. *Curr Probl Cancer*. 2018; 42:291-301.

Figures



Figure 1

Ulcerated left breast mass at presentation.

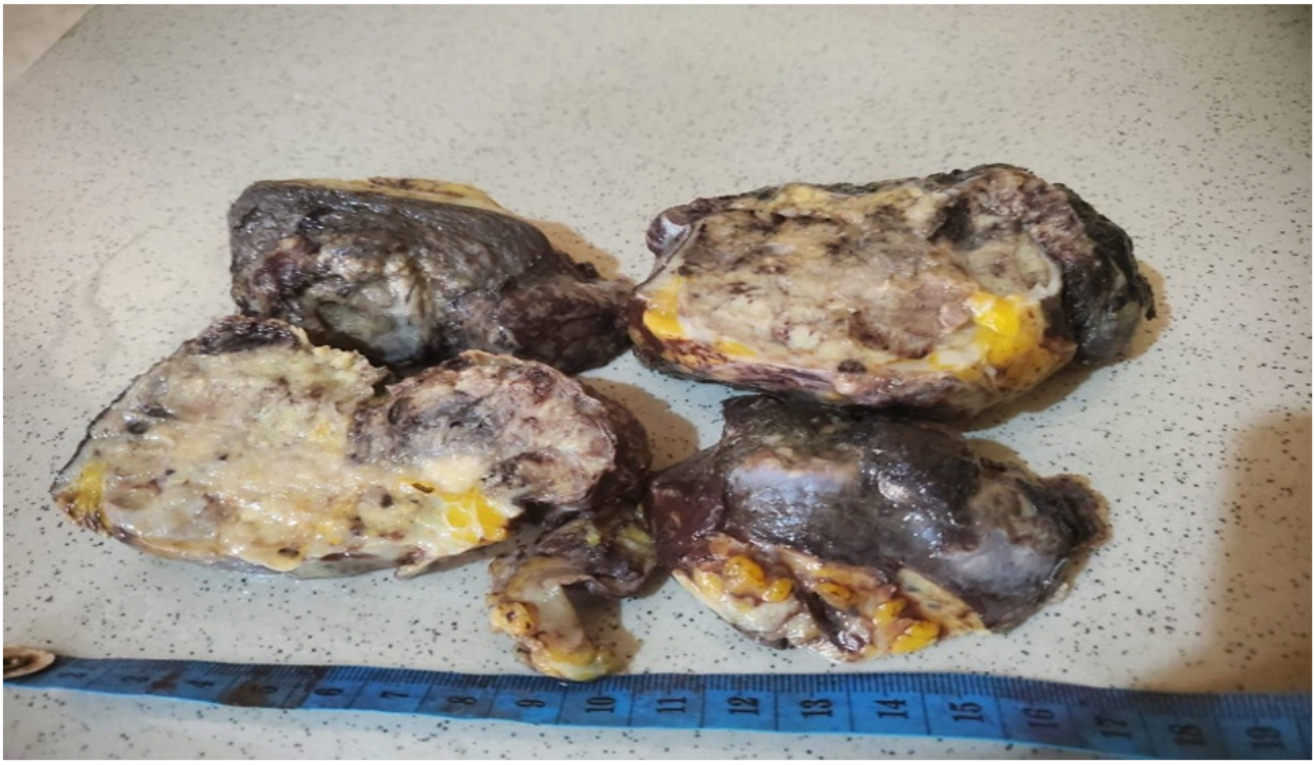


Figure 2

Gross images of the specimen showing greyish-white mural masses surrounded by fibrous capsules.

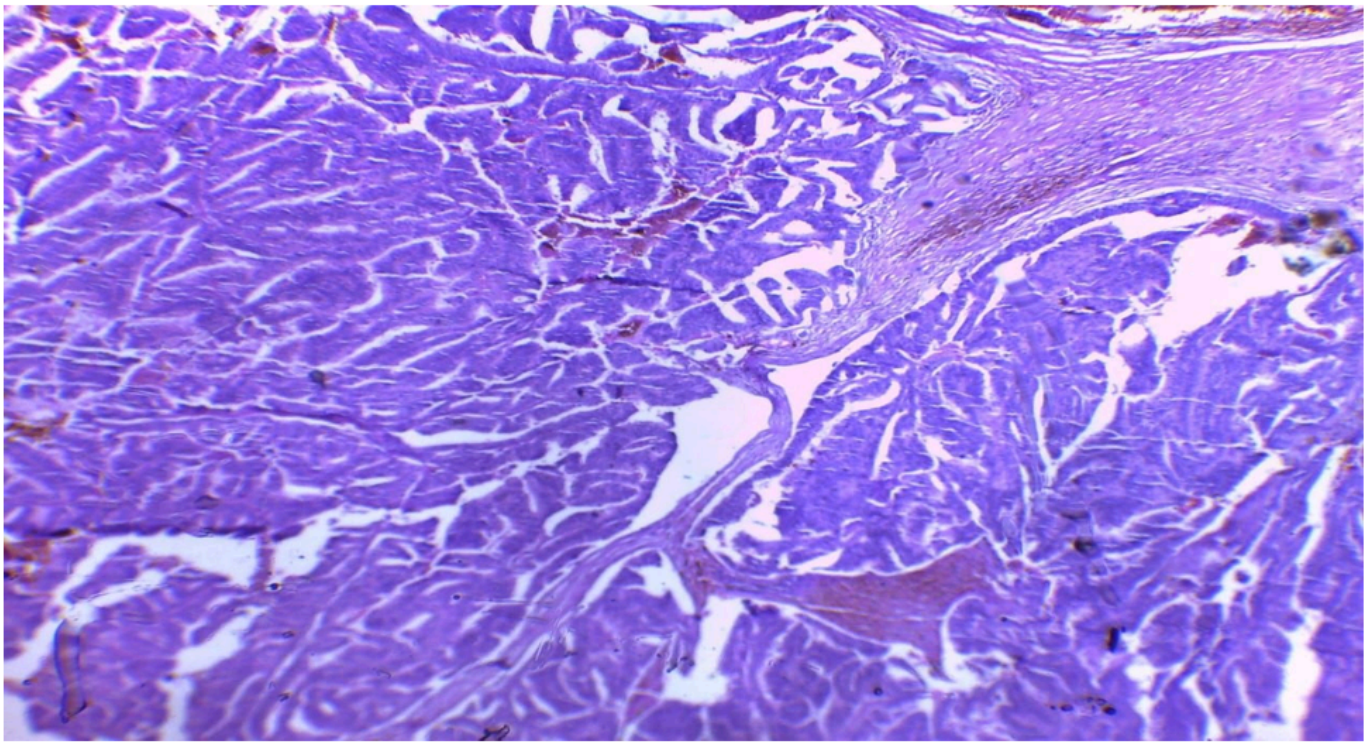


Figure 3

Well-delineated papillary neoplasm with prominent fibrovascular cores within a fibro-collagenous stroma. (x40).

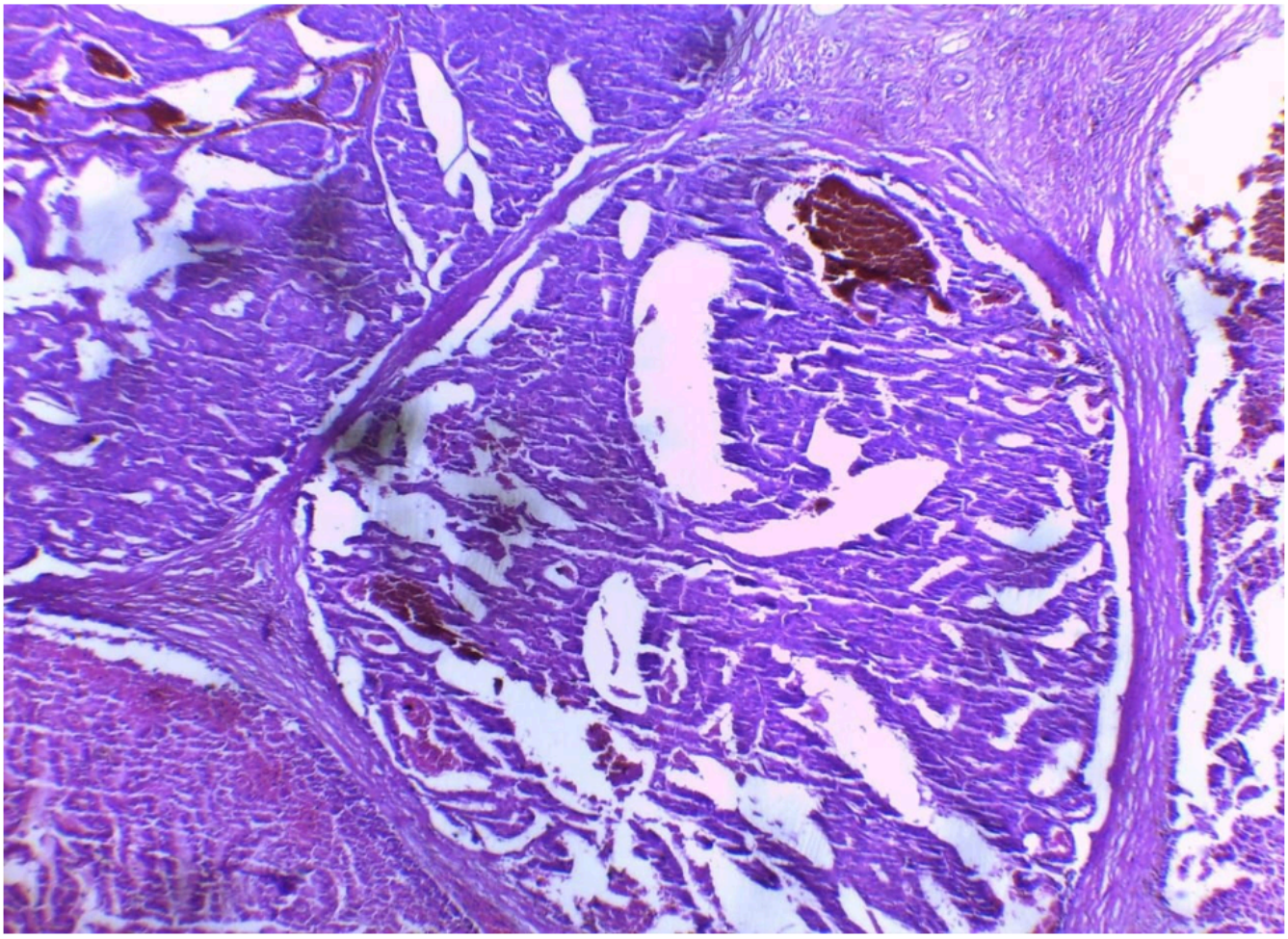


Figure 4

Intracystic papillary neoplasm separated by fibrous septae. No foci of invasion are seen. (x40).

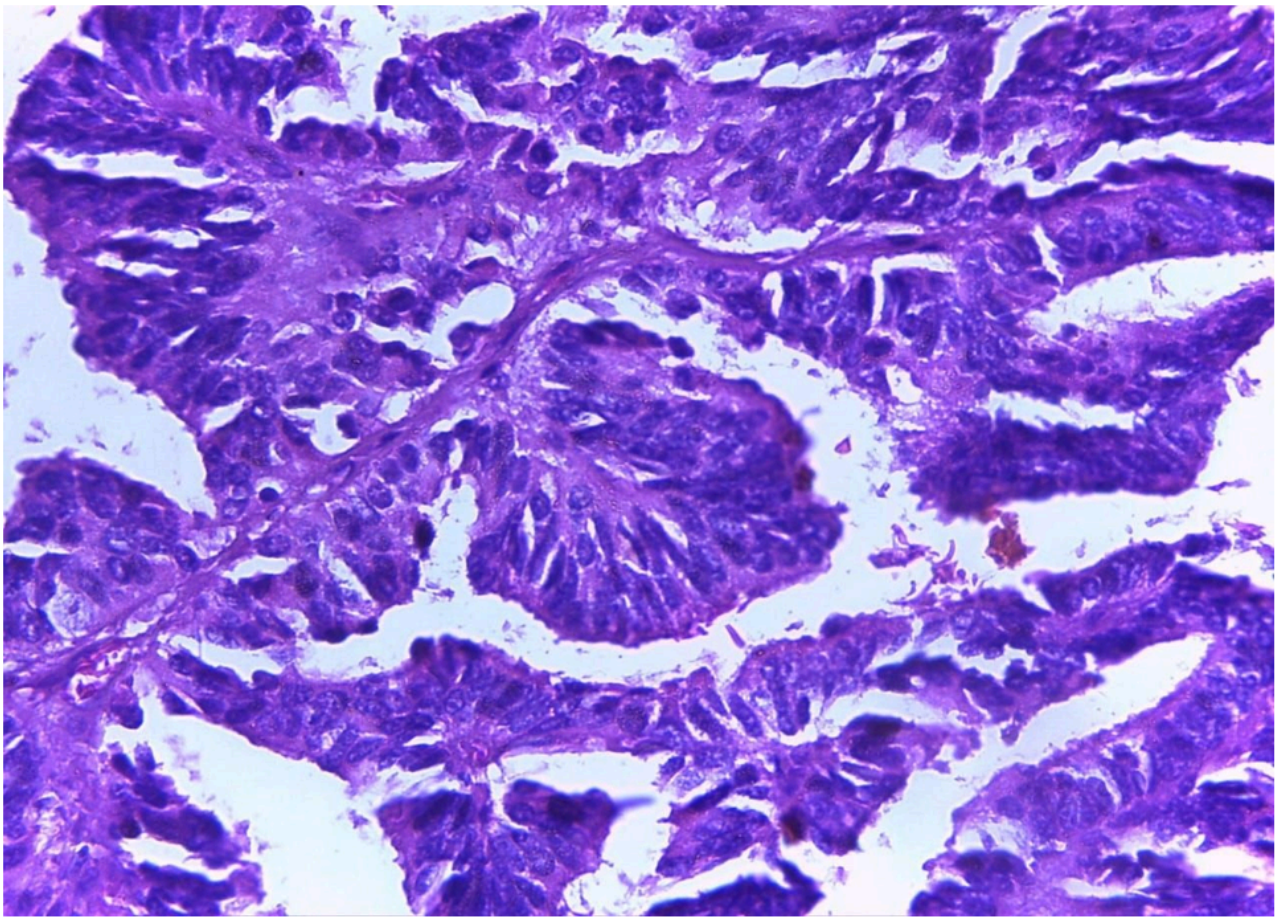


Figure 5

Neoplastic papillary fronds lined by columnar epithelial cells. Myoepithelial cells are absent. (x100).

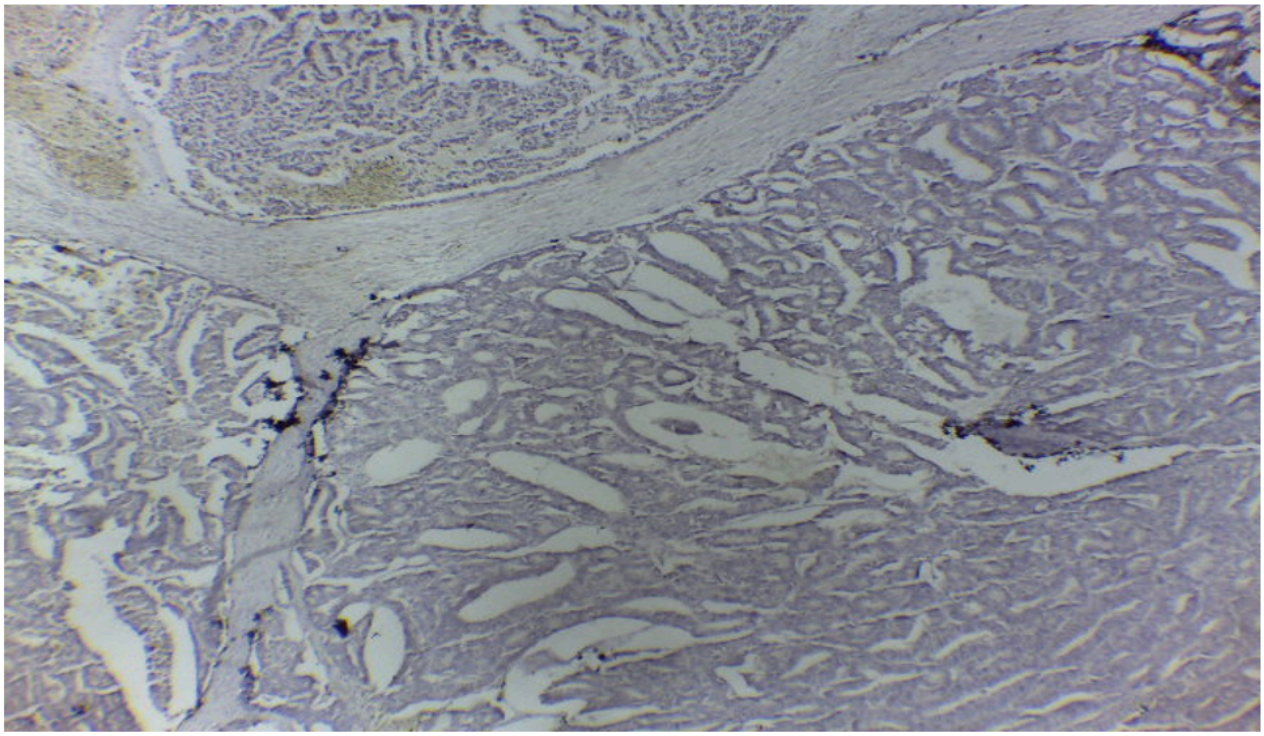


Figure 6

Negative P63 immunohistochemical staining.